

5 ABSTRACT OF THE DISCLOSURE

First and second laser beam sources generate first and second laser beams of different wavelengths, respectively. A first collimating lens diverges the first laser beam at a predetermined angle so as to permit a fracture surface aberration of the first laser beam to fall below a predetermined value when the first laser beam generated from the first laser beam source is collected on the signal layer of the optical disk. A light receiving lens collects the laser beam reflected from the signal layer of the optical disk on a photo diode in the form of an optical spot of a predetermined size. A holographic lens has a pattern by which the first laser beam is converted into parallel rays so that the size of a spot of the first laser beam becomes identical with the size of a spot of the second laser beam as projected on the detecting section. The pattern of the holographic lens has a concentric annular concave-convex portion in which a plurality of annular prominences and depressions are arranged, and the depression and the prominence have a width which is gradually decreased from a center toward a most outer circumference of the concentric annular concave-convex portion. Further, an inner surface of each prominence has a step-like shape formed with at least one step. Preferably, the number of the step ranges from three to five. Accordingly, diameters of the optical spots of the two laser beams of different wavelengths are almost identical when the laser beams are transmitted through the holographic lens so that the optical spots are formed on the photo diode. As a result, with one objective lens and photo diode, information of two types of optical disks for laser beams of different wave lengths can be reproduced.